

## ABSTRACT

A multivariant, common basis classification method and apparatus for classifying protocol data units in a network switching device is disclosed. The method of classifying a protocol data unit (PDU) in the preferred embodiment includes the steps of generating a first string and a second string with which to characterize a PDU; mapping first and second strings into a first index and second index, respectively, where the first and second indices are selected from a plurality of indices; and selecting an instruction to apply to the PDU by matching the first and second indices. The plurality of strings are commonly generated from the source and destination address in the packet as well as other indicia with which to identify a traffic flow. The instructions specify how to classify, route, switch, or otherwise process the PDU.